Remarks/Arguments

Claims 1-20, 39-42 and 44-46 are pending. Claims 15 and 18 are cancelled by the instant amendment. Claims 1, 16, 17, 19 and 44 are currently amended.

Applicant respectfully submits that the instant response is in compliance with 37 CFR 1.111(b), as applicant has distinctly and specifically pointed out the "supposed" errors in the Office's action and has replied to every ground of objection and rejection in the Office action. The response additionally presents arguments pointing out the specific distinction believed to render the claims patentable over any applied reference.

Information Disclosure Statement

Applicant has submitted under separate cover an Information Disclosure Statement in compliance with 37 C.F.R. 1.97(c)(2), including the fee set forth in 37 C.F.R. 1.17(p).

Specification

Applicant has submitted a replacement abstract as requested.

Claim Rejections – 35 USC § 102

Claims 1-4, 7, 9-12 and 15-19 are rejected under 35 U.S.C. 102(b) as being taught by Guevremont, et al. (US Patent Application Publication 2003/0150985 A1).

Claim 1 as originally filed specifies that each electrode of the electrode stack is spaced apart from an adjacent electrode of the electrode stack in a direction along the length of the electrode stack. Applicant has now amended claim 1 in order to provide improved clarity. In particular, amended claim 1 specifies that the electrode stack has a **length defined along a stacking direction**, and further specifies that each electrode of the electrode stack is spaced apart from an adjacent electrode of the electrode stack along the **stacking** direction. Claim 1 has been amended further to specify more clearly that ions

propagate **along the stacking direction** through the space between the at least an electrode and the edge of the electrode stack. Applicant respectfully submits that the amendments discussed *supra* do not narrow the scope of claim 1, but rather they merely clarify the spatial arrangement of the features that are already claimed in claim 1. Furthermore, no new matter has been added.

Applicant has also amended claim 1 to include the limitation of claim 15 as originally filed. Accordingly, amended claim 1 now recites:

> "an ion outlet plate disposed adjacent to a first end of the electrode stack and spaced-apart from the electrode stack along the stacking direction, the ion outlet plate defining an ion outlet for extracting from the analytical gap ions propagating along the stacking direction."

Applicant respectfully submits that Guevremont et al. does not teach or suggest "an ion outlet plate disposed adjacent to a first end of the electrode stack and spaced-apart from the electrode stack **along the stacking direction**, the ion outlet plate defining an ion outlet for extracting from the analytical gap **ions propagating along the stacking direction**." Rather, Guevremont et al. teaches a stacked-electrode assembly and an ion outlet plate, the ion outlet plate being spaced-apart from the electrode stack along a direction **transverse** to the stacking direction. Guevremont et al. clearly teaches that ions propagating along a direction that is **transverse** to the stacking direction (i.e. propagating within the space between facing surfaces of two electrode plates in the stack) are extracted via the ion outlet.

For the reasons that are discussed *supra*, Applicant respectfully submits that Guevremont et al. does not teach or suggest each and every feature of the instant invention in as complete detail and arranged as is claimed in amended claim 1. For more certainty, amended claim 1 defines a novel structural relationship between the electrode stack, the at least an electrode and the ion outlet plate, which is not disclosed either explicitly or implicitly by Guevremont et al. Accordingly, Applicant respectfully submits that

Guevremont et al. does not anticipate amended claim 1. Favorable consideration is kindly requested.

Claims 2-4 and 7 depend either directly or indirectly from believed allowable amended claim 1 and are also believed to be in proper condition for allowance. Favorable consideration is kindly requested.

Having regard to claim 9, Applicant notes that all of the limitations that are specified in claims 1 and 7 also are included in claim 9. In particular, claim 1 specifies that the "at least an electrode" is spaced apart from the electrode stack in a direction transverse to the stacking direction, and claim 7 specifies that "the at least an electrode comprises an electrode plate having a length and being oriented so as to maintain an approximately uniform spacing along the length of the electrode plate to the edge of the electrode stack." Applicant further notes that claim 7 uses the definite article to refer to *the* at least an electrode and *the* electrode stack, and that claim 9 uses the definite article to refer to *the* electrode plate. Accordingly, Applicant respectfully submits that the structure that is identified on page 4 of the Official action dated 07/03/2007 does not teach the invention as claimed in claim 9. In particular, the Examiner has arbitrarily redefined the at least an electrode to be electrode 151-155 and has similarly redefined the electrode stack to be the ion inlet and outlet electrode plates 131 and 132. However, in that case the at least an electrode is not spaced-apart from the edge of the electrode stack as is required in claim 1, but rather the at least an electrode (151-155) is sandwiched between the electrodes 131, 132 of the electrode stack. Applicant submits that it is improper to redefine structural elements in this manner for the purpose of rejecting a dependent claim, since no regard is being paid to the specific recitation of the same features in the base claim and any intervening claims. Accordingly, Applicant submits that Guevremont et al. fails to teach each and every feature of the instant invention in as complete detail as is recited at claim 9. Favorable consideration is kindly requested.

Claims 10-12 depend either directly or indirectly from believed allowable claim 1 and are also believed to be proper condition for allowance. Favorable consideration is kindly requested.

Claim 15 has been cancelled.

Claim 16 has been amended to read:

"An apparatus according to claim 1 [[15]], comprising an ion inlet plate disposed adjacent to a second end of the electrode stack opposite the first end and spaced-apart from the electrode stack along the stacking direction, the ion inlet plate ~~and~~ defining an ion inlet for introducing ions into the analytical gap."

Applicant respectfully submits that Guevremont et al. does not teach or suggest "an ion inlet plate disposed adjacent to a second end of the electrode stack ... and spaced-apart from the electrode stack **along the stacking direction**, the ion inlet plate defining an ion inlet for introducing ions into the analytical gap." Rather, Guevremont et al. teaches a stacked-electrode assembly and an ion inlet plate that is spaced-apart therefrom along a direction **transverse** to the stacking direction. Applicant respectfully submits that Guevremont et al. does not teach or suggest each and every feature of the instant invention in as complete detail and arranged as is claimed in amended claim 16. Accordingly, Guevremont et al. does not anticipate amended claim 16. Favorable consideration is kindly requested.

Claim 17 depends directly from believed allowable amended claim 1 and is also believed to be in proper condition for allowance. Applicant has amended the term "means for introducing ions" to read "an ion inlet for introducing ions" so as not to invoke the provisions of 35 USC §112, 6th paragraph. No new matter has been added. Favorable consideration is kindly requested.

Claim 18 has been cancelled.

Claim 19 depends indirectly from believed allowable amended claim 1 and is also believed to be in proper condition for allowance. Favorable consideration is kindly requested.

Claims 44-46 are rejected under 35 U.S.C. 102(b) as being anticipated by Guevremont, et al. ("Atmospheric pressure ion trapping in a tandem FAIMS-FAIMS coupled to a TOFMS: studies with electrospray generated gramicidin S ions," J Am Soc Mass Spectrom 2001, 12, 1320-1330) (Hereinafter Guevremont I).

Applicant has amended claim 44 in order to define more clearly that subject matter which is considered to be the invention. In particular, amended claim 44 recites (emphasis added, underlining indicates added text, strikethrough indicates deleted text):

"A method of separating ions comprising the steps of:
introducing ions into a first space defined between adjacent **electrode plates** of a stacked parallel **plate** high field asymmetric waveform ion mobility spectrometer;
performing a first separation of the ions within the first space, to selectively transmit a subset of the ions along a first direction between a first end of the **electrode plates** and a second end of the **electrode plates** that is opposite the first end;
performing a second separation of the ions within a second space, the second space being defined between edge surfaces of the second end of each of the **electrode plates** and at least another electrode, to selectively transmit some of the subset of the ions along a second direction approximately transverse to the first direction ~~between the second end of the electrode plates~~ and toward an ion outlet."

An example of support for the proposed amendments may be found in the application as originally filed at Figures 3a and 3b, and paragraphs [0052] through [0054]. No new matter has been added.

Applicant respectfully traverses the rejection of claim 44 as being anticipated by Guevremont I. In particular, claim 44 recites a step of "introducing ions into a first space defined between adjacent **electrode plates** of a **stacked parallel plate** high field asymmetric waveform ion mobility spectrometer." In contrast, Guevremont I teaches at Figure 6 an electrode arrangement including a common outer electrode body and three cylindrical inner electrode bodies, which together define a trapping FAIMS device that is

intermediate two side-to-side FAIMS devices. Some of the ions that are introduced into a side-to-side FAIMS device are subsequently transmitted through an aperture into the trapping FAIMS. However, Applicant notes that each one of the three distinct FAIMS devices in Figure 6 is based upon the **concentric cylindrical electrode geometry**. Guevremont I **does not** teach or suggest a **stacked parallel plate** FAIMS. Certainly, one of skill in the art at the time of the invention would not have considered a cylindrical electrode body to be equivalent to an electrode plate, since the term "plate" normally is understood to mean a flat, relatively thin piece of metal. Applicant also wishes to point out that a space between concentric cylindrical electrodes is not equivalent to a space between adjacent electrode plates. In particular, the curved electrode surfaces of the concentric cylindrical electrodes produces an ion focusing effect that is not present in a stacked parallel plate FAIMS device.

Furthermore, amended claim 44 specifies "performing a second separation of the ions within a second space, the second space being defined between edge surfaces of the second end of each of the electrode plates and at least another electrode." As is mentioned in the previous paragraph, Guevremont I teaches a second separation within an annular space defined between concentric cylindrical electrode bodies. Guevremont I does not teach or suggest a step of performing a second separation within a space as is defined in amended claim 44. Accordingly, Guevremont I **does not** teach each and every feature of the instant invention in as complete detail as is claimed at amended claim 44. Applicant respectfully submits that amended claim 44 is in proper condition for allowance. Favorable consideration is kindly requested.

Claim 45 depends from believed allowable claim 44 and is also believed to be in proper condition for allowance. Favorable consideration is kindly requested.

Claim 46 recites a step of "...providing a potential gradient within the second space for directing ions propagating therein along the second direction toward the ion outlet." Applicant respectfully submits that Guevremont I teaches the opposite of providing a potential gradient within the second space for directing ions propagating therein along the second direction toward the ion outlet. In particular, Guevremont I teaches at page 1324,

paragraph 3, providing a high **repelling** voltage to the orifice plate (OR) of the mass spectrometer to **prevent** the ions from being pulled by the gas flow out of the trapping region and into the orifice of the mass spectrometer. The reduction of the OR voltage to zero eliminates the trapping action and the ions flow continuously into the mass spectrometer. Accordingly, Guevremont I does not teach each and every feature of the instant invention in as complete detail as is claimed at claim 46. Applicant respectfully submits that claim 46 is in proper condition for allowance. Favorable consideration is kindly requested.

Claim Rejections – 35 USC § 103

Claims 5, 8 and 20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Guevremont et al. (US Patent Application Publication 2003/0150985 A1) in view of Guevremont, et al. ("Atmospheric pressure ion trapping in a tandem FAIMS-FAIMS coupled to a TOFMS: studies with electrospray generated gramicidin S ions," J Am Soc Mass Spectrom 2001, 12, 1320-1330).

Claims 5, 8 and 20 depend from believed allowable claim 1 and are also believed to be in proper condition for allowance. Favorable consideration is kindly requested.

Claims 39-41 are rejected under 35 U.S.C. 103(a) as being unpatentable over Fuhrer, et al. (US Patent Application Publication 2001/0032929) in view of Guevremont et al. (US Patent Application Publication 2003/0150985 A1).

Applicant notes that patent examiners carry the responsibility of making sure that the standard of patentability enunciated by the Supreme Court and by the Congress is applied in each and every case. In *KSR International Co. vs. Teleflex Inc., 550 US 82 USPQ 2d 1385* the Supreme Court of the United States reaffirmed that the test for obviousness is the Graham Factual Inquiry (*Graham v. John Deere Co. of Kansas City, 383 U.S. 1, 148 USPQ 459 (1966)*). Under Graham, the scope and content of the prior art are ... determined; differences between the prior art and the claims at issue are ...

ascertained; and the level of ordinary skill in the pertinent art resolved. Against this background the obviousness or nonobviousness of the subject matter is determined. In addition, the claimed invention must be considered as a whole and the references must be viewed without the benefit of impermissible hindsight vision afforded by the claimed invention.

Patent examiners are also required to provide rationales to support rejections under 35 U.S.C. 103. The key to supporting any rejection under 35 U.S.C. 103 is the clear articulation of the reason(s) why the claimed invention would have been obvious. The Supreme Court in *KSR* noted that the analysis supporting a rejection under 35 U.S.C. 103 should be made explicit. The Court quoting *In re Kahn* stated that " '[R]ejections on obviousness cannot be sustained by mere conclusory statements; instead, there must be some articulated reasoning with some rational underpinning to support the legal conclusion of obviousness' " (see Federal Register / Vol. 72, No. 195 pp. 57528-57529).

Applicant respectfully submits that the Examiner has failed to establish a *prima facie* case of obviousness with respect to claim 39. The Examiner does not appear to have determined fully the scope and content of the prior art, but has merely selected various features from each of the references without due regard to the teaching of the references as a whole. In addition, the Examiner does not appear to have resolved (either explicitly or implicitly) the level of ordinary skill in the pertinent art. It is unclear how the Examiner is able to determine what would have been obvious to a person having ordinary skill in the art at the time of the invention without first resolving the level of ordinary skill in the pertinent art. For at least these reasons, Applicant submits that the Office has failed to satisfy the initial burden of proof that is required to establish a *prima facie* case of obviousness with respect to the subject matter of claim 39 currently of record. Applicant addresses these points in greater detail, below.

Applicant further notes that the rational that is provided in support of the reasons for making the modification, as well as the actual statement of the proposed modification itself, are so confusing that Applicant has not been given a proper opportunity to rebut the rejection of claim 39 as being unpatentable over Fuhrer et al. in view of Guevremont. In

particular, the Examiner appears to consider the Fuhrer et al. reference to be the primary reference in the instant rejection. The Examiner begins on page 10 (point 7) of the Office Action mailed on 07/03/2007 by pointing out the features of the invention as claimed at claim 39 that are disclosed in the Fuhrer et al. reference. The Examiner then recites the features of the invention as claimed at claim 39 that are not disclosed in the Fuhrer et al. reference. In the next paragraph, the Examiner points out the portions of the Guevremont reference that supposedly teach the features that are missing from the Fuhrer et al. reference. Then, confusingly, the Examiner makes the statement that Fuhrer et al. teaches the benefits of an alternating electrode stack arrangement, which results in the ability to select between high resolving power and focusing (at least in the specific example that is shown by Fuhrer et al.). Finally, based on the supposed advantage that is mentioned in the Fuhrer et al. reference, the Examiner states that it would have been obvious to combine the teachings of Fuhrer et al. with those of Guevremont to:

> "...apply at least a first electrode comprising a first plurality of electrode portions; and at least a second electrode comprising a second plurality of electrode portions along a first direction in Guevremont's mobility spectrometer apparatus."

However, Applicant is unable to fully comprehend the nature of the combination the Examiner is proposing. The Examiner's statement of the proposed combination does not appear to tie in logically with the first three paragraphs mentioned in point 7 of the Office Action mailed on 07/03/2007. Is the Examiner suggesting that Guevremont's mobility spectrometer apparatus be modified to include additionally at least a first electrode comprising a first plurality of electrode portions; and at least a second electrode comprising a second plurality of electrode portions along a first direction? If so, it is unclear what the Examiner means by a first direction since Guevremont does not define a first direction. Or is the Examiner suggesting that the electrode stack disclosed by Guevremont is simply modified to include the voltage divider chain and ring-shaped electrode of Fuhrer et al., both of which are necessary to achieve the stated advantage of selecting between high resolving power and focusing? If this is the case, Applicant requests clarification as to how the electrode assembly of Guevremont could then be

operated in FAIMS separating mode as required by claim 39, i.e. with the application of particular dispersion voltages and compensation voltages, as discussed in greater detail below. If the Examiner decides to maintain the instant rejection of claim 39 under 35 U.S.C. 103(a), then Applicant respectfully requests that the next office action **not** be made final, since Applicant does not believe that the current rejection has been stated with sufficient clarity to allow a genuine issue to be developed. In an attempt to advance the prosecution of the instant application, Applicant has attempted to address the instant rejection, as it currently is understood.

Regarding the scope and content of the prior art, Applicant notes that Fuhrer et al. teaches a low-field ion mobility analyzer with periodic field focusing (i.e. see paragraphs [004] and [0017]). As the examiner has acknowledged, Fuhrer et al. does not teach a FAIMS apparatus. According to Fuhrer et al., ions are separated according to their low-field mobility properties and are transmitted along a spectrometer axis that passes through the ring-shaped electrodes. The ring-shaped electrodes are arranged in an alternating sequence along a first direction, which is normal to the plane of each of the ring-shaped electrodes. In addition, resistors 18 connect first pairs of the ring-shaped electrodes and resistors 16 connect second pairs of the ring-shaped electrodes. When the resistance of the resistors 18 is smaller than the resistance of the resistors 16, then hyperbolic field focusing results. When the resistance of resistors 16 and 18 is equal, hyperbolic field focusing does not result, but high resolution is achieved (see paragraph [0085] and [0086]). Fuhrer et al. further teaches inclusion of an adjustable resistor 19, allowing selection of purely periodic field focusing mode, a homogeneous field mode without any focusing but with high resolution, or a condition intermediate the two extremes (see paragraph [0087]). While the Examiner's statement on page 12 of the Office action mailed on 07/03/2007 appears to be technically true, Applicant submits that in fact the selection between high resolving power and high focusing is achieved only using the particular electrode structure and associated voltage divider chains described in the Fuhrer et al. reference. In fact, it appears that the ring-shaped electrode structure, in which ions propagate along a central spectrometer axis, is critical to achieving the selectability between high resolving power and high focusing.

It should also be readily appreciated, based upon a consideration of the Fuhrer et al. reference as a whole, that the voltages applied to the various electrodes in the devices of i.e. Figures 8(a), 8(b), 9(a) and 9(b) are not suitable for separating ions according to the FAIMS principle. Rather, these devices are set up to produce an electric field such that the ions are separated based on their mobility relative to a drift/buffer gas. Fuhrer et al. notes that in IMS, separation efficiency is comprised when "bands" of the various ions spread apart as opposed to remaining together in a tight, well defined plug. Fuhrer et al. further notes "thus the quality of the electric field maintained in the drift cell is critical to preserving and perhaps improving separation efficiency; i.e. resolution. It is worth noting that a mixture of ions becomes separated into distinct groups along the length of the spectrometer, based on their mobility properties, allowing sequential detection of each group of ions using a detector. Such an IMS instrument does not function as an "ion filter."

Guevremont et al. teaches separately a Field Asymmetric Ion Mobility Spectrometer (FAIMS) including a plurality of parallel plate electrodes arranged as a stack, with a space being defined between each pair of adjacent electrodes of the stack. Ions are separated within the spaces between the adjacent electrodes and are extracted via an ion outlet orifice that is defined within an ion outlet electrode (132), the ion outlet electrode (132) being spaced apart from the stack of electrodes along a direction transverse to the direction of electrode stacking and being maintained at a predetermined dc voltage by a power supply (see paragraph [0052]). According to Guevremont et al., application of a high field asymmetric waveform dispersion voltage and a superimposed direct current compensation voltage between adjacent electrodes of the stack results in separation of the ions according to the FAIMS mechanism. In particular, FAIMS operates like an ion filter in that only those ions having appropriate high field mobility properties for a given combination of dispersion voltage and compensation voltage will have a stable trajectory along the length of the analyzer region. Other types of ions suffer collisions with one of the electrode surfaces and are neutralized. Accordingly, the type of separation that is achieved using FAIMS is vastly different than the type of separation that is achieved using an IMS instrument, such as the one described by Fuhrer et al.

Having read the Office Action mailed on 07/03/2007, it appears to Applicant that the Examiner has selected different features that are taught separately in each of the two cited references in order to piece together all of the features of the invention as claimed at claim 39, using the instant specification impermissibly as a map. The Examiner notes that Fuhrer et al. teaches:

> "an electrode assembly including; at least a first electrode comprising a first plurality of electrode portions (ring-shaped plate electrodes connected by resistors 16 in Fig. 8); at least a second electrode comprising a second plurality of electrode portions arranged in alternating sequence with the first plurality of electrode portions along a first direction (ring-shaped plate electrodes connected by resistors 18 in Fig. 8)."

This statement appears to be accurate. Fuhrer et al. does teach an ion mobility spectrometer having such a structure, and additionally teaches that the spectrometer axis is the major (lengthwise) axis of the spectrometer (paragraph [0075]). The ions are separated as they move through the drift tube in a direction along the spectrometer axis. **It is important to note** that Fuhrer et al. teaches ion separation **within the drift tube**, that is to say, within the volume between the spectrometer axis and the electrode **inner** surface nearest the spectrometer axis (see paragraph [0057]). The Examiner then continues with the statement:

> ... but fails to teach an electrode plate spaced apart from the first plurality of electrode portions and the second plurality of electrode portions in a second direction transverse to the first direction, the space between the electrode plate and the first plurality of electrode portions and the second plurality of electrode portions defining an analytical gap for allowing ions to propagate therethrough along approximately the first direction."

Clearly, the Examiner considers this to be one difference between the teachings of Fuhrer et al. and the invention as claimed at claim 39. In addition, the Examiner states:

> "...and, at least an electrical controller for electrically coupling to at least one of the at least a first electrode, the at least a second electrode and the electrode plate for establishing an electrical field within the analytical gap resulting from the application of an asymmetric waveform and a direct current voltage between the at least a first electrode, the at least a second electrode and the electrode plate..."

Clearly, the Examiner considers this to be another difference between the teachings of Fuhrer et al. and the invention as claimed at claim 39.

The Examiner then states that Guevremont teaches:

> "an electrode plate spaced apart from the first plurality of electrode portions and the second plurality of electrode portions in a second direction transverse to the first direction, the space between the electrode plate and the first plurality of electrode portions and the second plurality of electrode portions defining an analytical gap for allowing ions to propagate therethrough along approximately the first direction."

Applicant does not concur. What Guevremont actually teaches is an ion outlet electrode (132) spaced apart from the first plurality of electrode portions and the second plurality of electrode portions in a second direction transverse to the first direction. The space between the ion outlet electrode (132) and the first plurality of electrode portions and the second plurality of electrode portions does not define an analytical gap, but rather an extraction region for extracting ions that are propagating along the second direction after emerging from the analytical gap between the electrodes of the electrode stack. According to the teaching of Guevremont, the dc voltage applied to the ion outlet electrode (132) is adjusted to help pull ions away from the trailing edge of electrode 123 in a controlled fashion.

In contrast, claim 39 specifies:

> "an electrode plate spaced apart from the first plurality of electrode portions and the second plurality of electrode portions in a second direction transverse to the first direction, the space between the electrode plate and the first plurality of electrode

portions and the second plurality of electrode portions defining an analytical gap for allowing ions to propagate therethrough along approximately the first direction."

Clearly, the electrode plate that is specified in claim 39 **does not perform the same function** as the ion outlet electrode (132) of Guevremont's FAIMS apparatus. Rather, the electrode plate that is specified in claim 39 **performs the new function** of defining a portion of the analytical gap. Furthermore, claim 39 specifies that ions propagate through the analytical gap along approximately the first direction, whereas Guevremont teaches that ions propagating along the second direction (transverse to the first direction) are extracted through an ion outlet orifice defined within ion outlet electrode (132). Accordingly, the invention as claimed in claim 39 (as a whole) functions in a manner that is different than would be predicted based upon the proposed combination. Clearly, this is **not** a case of simply rearranging elements found in the prior art with each element merely performing the same function as in the prior art.

Returning now to the proposed combination, Applicant still does not comprehend the manner in which the teachings of Fuhrer et al. and of Guevremont et al. can be combined to result in the invention as claimed at claim 39. If the Examiner is suggesting that the ring-shaped electrodes of Fuhrer et al. are applied in place of the electrodes 121-125 disclosed by Guevremont et al., then it would appear to Applicant that the resulting combination would be inoperable since Fuhrer et al. clearly teaches that ions propagate through the center of the ring-shaped electrodes along the first direction, and therefore the ions would not be directed toward the ion outlet orifice in the ion outlet electrode (132). In addition, Applicant submits that applying the high field asymmetric waveform potential and dc compensation voltage as taught by Guevremont et al. would eliminate the benefits of the alternating electrode stack of Fuhrer et al. Furthermore, the proposed combination does not appear to result in the invention as claimed in claim 39 since the ions are required to propagate through the center of the ring-shaped electrodes of Fuhrer et al.

If the Examiner is instead suggesting that the ion outlet electrode (132) disclosed by Guevremont et al. is spaced apart from the end of the alternating electrode stack of

Fuhrer et al., then Applicant submits the proposed combination is outside the scope of claim 39. In particular, the ion outlet electrode (132) would be spaced apart from the first plurality of electrode portions and the second plurality of electrode portions in the first direction, not the second direction as specified in claim 39. Accordingly, the proposed combination does not appear to result in the invention as claimed in claim 39.

Perhaps the Examiner is instead suggesting that the ion outlet electrode (132) is not operated as an ion outlet electrode at all, but rather it functions as an electrode of the analytical gap such that ions propagate along the stacking direction between the ring-shaped electrodes of Fuhrer et al. and the said electrode, as is disclosed in the instant application. In this latter case, Applicant respectfully submits that the Examiner is relying upon impermissible hindsight reasoning. In particular, the differences between the combined teachings of the cited references and the invention as claimed at claim 39 are so great (in terms of both the functions of the individual elements and the function of the invention as a whole) that they require more than the routine experimentation of which one of ordinary skill in the art would be capable. Even then, it is not clear how the asymmetric waveform voltage and the direct current compensation voltage could be applied between the electrodes while at the same time providing the benefit of allowing selection between high resolving power and high focusing as discussed by Fuhrer et al., which appears to the Examiner's sole rational for supporting the current obviousness rejection.

For at least the reasons that are outlined above, Applicant respectfully submits that the invention as claimed in claim 39 is in proper condition for allowance. Applicant respectfully requests favorable consideration.

Claims 40 and 41 depend from believed allowable claim 39 and are also believed to be in proper condition for allowance. Favorable consideration is kindly requested.

Applicant looks forward to receiving favourable consideration of the instant application.

A Petition for Extension of Time is filed concurrently with this response.

Please charge any additional fees required or credit any overpayment to Deposit Account No: 50-1142.

Respectfully submitted,

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